

What is claimed is:

- 5 1. A polyurethane composition for the production of foils, comprising the following components, at least some of which are stored separately:
 - (A) a di- or polyisocyanate
 - 10 (B) a compound containing hydrogen active in a polyurethane reaction;
 - (C) a catalyst or a system catalyzing the polyurethane reaction;
 - (D) a fine-particle oxide of a metal or of a
15 metalloid, as additive;
at a concentration above 3% by weight
 - (E) where appropriate, additives,
in the absence of amine initiators.
- 20 2. The polyurethane composition as claimed in claim 1, wherein, in component (A), use is made of an isocyanate in which the isocyanate groups have no direct bonding to an aromatic group, in particular aliphatic or alicyclic isocyanates or associated
25 derivatives.
3. The polyurethane composition as claimed in claim 1 or 2, wherein the compound of component (B) containing active hydrogen has been selected from
30 polyols, in particular having more than 60% of primary OH groups.
4. The polyurethane composition as claimed in any of
35 claims 1 to 3, wherein component (A) has an average functionality of from 2 to 3 and an NCO content of from 8 to 25%, and component (B) has an average functionality of from 2 to 8.

5. The polyurethane composition as claimed in any of claims 1 to 4, which comprises, as catalyst, a lead catalyst, bismuth catalyst, titanium catalyst, or tin catalyst, or comprises a system in which the lead compounds, bismuth compounds, titanium compounds, and/or tin compounds are present.
6. The polyurethane composition as claimed in any of claims 1 to 5, which comprises traces of water, its amount being not more than 0.3 part, based on 100 parts of component (B).
7. The polyurethane composition as claimed in any of claims 1 to 6, which also comprises an OH-terminated chain extender or crosslinking agent with a molecular weight below 1000 and with an average functionality of from 2 to 6.
8. The polyurethane composition as claimed in any of claims 1 to 7, wherein the ratio between the components (A):(B-E) is from 15:100 to 40:100.
9. The polyurethane composition as claimed in any of claims 1 to 8, wherein the proportion by weight of component (C) is from 0.03 to 5%.
10. The polyurethane composition as claimed in any of claims 1 to 9, wherein the proportion by weight of component (D) is from 3 to 20%.
11. The polyurethane composition as claimed in any of claims 1 to 10, wherein a release agent for better demolding has also been added to the reaction mixture.
12. The polyurethane composition as claimed in any of claims 1 to 11, wherein the fine-particle oxide is a fumed silicon dioxide, aluminum oxide, titanium

oxide or is a mixture of these oxides, in particular also with relatively small amounts of other oxides of metals or of metalloids.

- 5 13. The polyurethane composition as claimed in claim 12, wherein the fine-particle oxide is an oxide hydrophobicized at least on the surface, in particular hydrophobicized fumed silica
- 10 14. A process for producing a foil from the polyurethane composition as claimed in any of claims 1 to 13, which comprises spraying the composition in one or more passes onto a smooth surface or into a mold, and permitting it to react
- 15 to completion.
15. The process as claimed in claim 14, wherein the manner of spray-application is such as to give a layer thickness of from 0.1 to 5 mm, preferably
- 20 from 0.1 to 3 mm, more preferably from 0.1 to 2 mm.
16. The process as claimed in claim 14 or 15, wherein the composition is sprayed using a temperature of
- 25 from 40 to 90°C.
17. A polyurethane foil, which comprises a fine-particle oxide of a metal or of a metalloid, its proportion by weight preferably being from 5 to
- 30 15%.
18. The polyurethane foil as claimed in claim 17, which is obtainable from a polyurethane composition as claimed in any of claims 1 to 13.

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